

REMARKS

In accordance with the foregoing, claims have been neither amended nor canceled. Claims 1-21 are pending and under consideration.

REJECTION UNDER 35 U.S.C. §103:

Claims 1, 2, 4, 7, 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (U.S. Publication No. 2002/0015070) in view of Okamoto (U.S. Patent No. 6,474,774).

The Office Action acknowledges that Taylor et al. fails to disclose "head caps to revolve between a capping position and an uncapping position of printer heads." However, the Office Action sets forth Taylor et al. discloses "a revolution unit disposed between the head caps and the slider to revolve the head caps in association with the slider with respect to the head caps(Figures 1-3)." In addition, the Office Action sets forth Okamoto discloses "head caps to revolve between a capping position and uncapping position of printer heads; revolution unit (Figures 4-5;column 10, lines 36-41) for the purpose of making the dimension of the apparatus main body significantly smaller."

By way of review, Taylor et al. discloses Figures 1-3 but it is unclear which part of the drawings is regarded as "a revolution unit disposed between the head caps and the slider to revolve the head caps in association with the slider with respect to the head caps" as recited in claim 1. Furthermore, Okamoto merely discloses "FIG. 4 is a partial side view which shows the status of capping means 11 being at the first position where it is closely in contact with recording means 1. FIG. 5 is a partial side view which shows the status of capping means 11 being at the second position where a recording medium is made passable."(col. 10, lines 36-41) In addition, Okamoto fails to disclose "wiper" as recited in claim 1.

Therefore, Okamoto does not teach or suggest how to combine "a slider to slide with respect to the head caps, and having wipers mounted on a front end portion thereof; a slider movement unit to slide the slider; and a revolution unit disposed between the head caps and the slider to revolve the head caps in association with the sliding of the slider with respect to the head caps" as recited in claim 1.

As such, it is respectfully submitted that the combination of Taylor et al. and Okamoto does not disclose or suggest the invention recited in claim 1.

In addition, claim 11 is deemed patentable due at least to the same reasons as claim 1, as well as for the additional features recited therein.

Regarding claim 2, the Office Action sets forth Taylor fails to disclose "shaft disposed under the printer heads in a traverse direction with respect to a sliding direction of the slider; revolving member to revolve on the shaft and couples with the head caps" However, the Office Action sets forth Okamoto discloses "shaft disposed under the printer heads in a traverse direction with respect to a sliding direction of the slider; revolving member to revolve on the shaft and couples with the head caps"(Figures 1-2, 4; column 7, lines 60-66)(Figures 1, 4-5; column 2, lines 41-45; column 10, lines 36-41), for the purpose of making the dimension of apparatus main body significantly smaller."

By way of review, Okamoto discloses a reference numeral 37 designates the rotation base that rotatively supports the shafts 38a and 38b of a cap base 35; 39, a coil spring that biases the cap base 35 rotatively supported by the rotation base 37 in the direction toward the recording head 1; 40, the rotational shaft both ends of which are supported by the side face 23 of the chassis 13 and a first platen 47 to be described later" (col. 7, lines 60-66)

In contrast to the Examiner's assertions, claim 2 sets forth "a shaft disposed under the printer heads in a traverse direction with respect to a sliding direction of the slider" which is not disclosed in Okamoto.

Furthermore, Okamoto discloses "the operation of the ink jet recording apparatus shown in FIG. 20 is as follows: when a recording operation begins, the cap 111. Which is closely in contact with the recording head for protecting the discharge port of the recording head 101(col. 2, lines 41-45) but fails to disclose "revolving member to revolve on the shaft and coupled with the head caps thereon" as recited in claim 2.

In addition, Okamoto merely discloses "FIG. 4 is a partial side view which shows the status of capping means 11 being at the first position where it is closely in contact with recording means 1. FIG. 5 is a partial side view which shows the status of capping means 11 being at the second position where a recording medium is made passable"(col. 10, lines 36-41) but fails to teach or suggest "and links, each hingely coupled to the revolving member and the slider, to activate the revolving member while interlocking with the slider." as recited in claim 2.

As such, it is respectfully submitted that the combination of Taylor et al. and Okamoto does not teach or suggest the invention recited in claim 1.

Regarding claim 12, the Office Action sets forth Okamoto discloses "revolving member to couple to the head caps; a shaft to couple to the revolving member to move upward and downward in the casing, and mounted in front of the entrance of the casing (Figures 1,4-5; column 2, lines 41-45; column 10, lines 36-41)

By way of review, Okamoto merely discloses "the operation of the ink jet recording

apparatus shown in FIG. 20 is as follows: when a recording operation begins, the cap 111. Which is closely in contact with the recording head for protecting the discharge port of the recording head 101”(col. 2, lines 41-45) and “FIG. 4 is a partial side view which shows the status of capping means 11 being at the first position where it is closely in contact with recording means 1. FIG. 5 is a partial side view which shows the status of capping means 11 being at the second position where a recording medium is made passable”(col. 10, lines 36-41) but fails to disclose “a shaft to couple to the revolving member to move upward and downward in the casing, and mounted in front of the entrance of the casing; and links to connect the revolving member and the slider” as recited in claim 12.

As such, it is respectfully submitted that the combination of Taylor et al. and Okamoto does not teach or suggest the invention recited in claim 12.

Regarding claim 13, the Office Action sets forth Okamoto teaches “revolving member is sectioned into a plate (35) on which the head caps (11) are mounted, and a connection portion provided on the plate (Figure 5), for purpose of making the dimension of apparatus main body significantly smaller.”

By way of review, Okamoto discloses “the driving power is transmitted through the relay gear 29, the rotational gear 42, and the rotational shaft 40 to enable the rotation base 37 to rotate in the clockwise direction from the second position in FIG. 5, together with the second platen 48, the cap base 35, the cap 11, and the like which are fixed thereto.”(col.15, lines 8-13) but fails to disclose “revolving member is sectioned into a plate on which the head caps are mounted, and a connection portion provided on the plate” as recited in claim 13.

As such, it is respectfully submitted that the combination of Taylor et al. and Okamoto does not teach or suggest the invention recited in claim 13.

Regarding claim 14, the Office Action sets forth Okamoto discloses “the connection portion comprises a pair of ribs to protrude forward from an end of the plate and disposed opposite to each other (Figures 1-2, 4-5; column 7, lines 60-67;column 8, lines 1-16)

By way of review, Okamoto discloses “a reference numeral 37 designates the rotation base that rotatively supports the shafts 38a and 38b of a cap base 35; 39, a coil spring that biases the cap base 35 rotatively supported by the rotation base 37 in the direction toward the recording head 1; 40, the rotational shaft both ends of which are supported by the side face 23 of the chassis 13 and a first platen 47 to be described later;”(col. 7, lines 60-67) fails to disclose “a pair of ribs to protrude forward from an end of the plate and disposed opposite to each other” as recited in claim 14.

Furthermore, Okamoto discloses “The electro-magnetic clutch 43 has the rotational shaft

40 as the output shaft to which the rotation base 37 is fixed. In the on-condition, the input shaft and the rotational shaft 40 are connected to transmit input from the rotational gear 42 to the rotational shaft 40, thus enabling the rotation base 37, the cap base 35, the cap 11, and the like, which are installed thereon, to be rotated. Here, a reference numeral 21 designates a recovery tube through which ink runs at the time of recovery operation, and one end of the recovery tube 21 is connected with the interior of the cap 11, and the other end thereof is connected with a recovery pump 44; 45, a waste ink tube, and one end of the waste ink tube 45 is connected with the recovery pump 44, and the other end thereof is connected with a waste ink absorbent 46”(col.8, lines 1-16) however, it is unclear whether Okamoto discloses “wherein the connecting portion comprises a pair of ribs to protrude forward from an end of the plate and disposed opposite to each other” as recited in claim 14.

As such, it is respectfully submitted that the combination of Taylor et al. and Okamoto does not teach or suggest the invention recited in claim 14.

In addition, claim 15 is deemed patentable due at least to its depending from claim 14, as well as for the additional features recited therein.

Claims 3, 5, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (U.S. Publication No. 2002/0015070) as modified by Okamoto (U.S. Patent No. 6,474,774) and further in view of Shimizu et al. (U.S. Publication No. 2002/0105560).

Regarding claims 3, and 17, the Office Action acknowledge that Taylor et al. and Okamoto fails to disclose “a first hinge shaft to protrude on a side of the slider; and a second hinge shaft to protrude on a side of the revolving member, wherein the second hinge shaft is located a position lower than the first hinge shaft when the slider and revolving member are disposed in parallel to each other.” However, the Office Action asserts Shimizu et al. discloses “a first hinge shaft(36,37) to protrude on a side of the slider(31)(paragraph 0063); and a second hinge shaft to protrude on a side of the revolving member(22), wherein the second hinge shaft is located a position lower than the first hinge shaft when the slider and revolving member are disposed in parallel to each other(Figures 7-8).”

By way of review, Shimizu et al. discloses “as shown in FIG. 8, in such a condition that the sealing state of the nozzle forming surface of the recording head 15 through the cap member 22 is released, a seal surface in the cap member 22.”(paragraph[0067], lines 1-4) It is unclear how the Examiner alleges that cap member 22 in Shimizu et al. is regarded as “a revolving member” as recited in claim 3. Furthermore, it is unclear whether “a second hinge shaft to protrude on a side of the revolving member(22)” is disclosed in Shimizu et al.

As such, it is respectfully submitted that the combination of Taylor et al., Okamoto and/or Shimizu et al. does not teach or suggest the invention recited in claim 14.

Claim 17 is deemed patentable due at least the same reason as claim 3, as well as for the additional features recited therein.

In addition, claim 5 is deemed patentable due at least to its depending from claim 3, as well as for the additional features recited therein.

Regarding claim 18, the Office Action sets forth Shimizu et al. discloses "a body; a driving hinge part having a first hinge hole (37) on one end portion thereof to be engaged with the first hinge shaft(36) of the slider (31); and a moving hinge part having a second hinge hole disposed lower than a first hinge hole on the other end portion thereof to be engaged with the second hinge shaft of the revolving member(22)(Figures 7-8)

By way of review, Shimizu et al. discloses "the cap member 22 first abuts on the nozzle forming surface on the home position side in such a state as to seal the nozzle forming surface of the recording head 15, and functions to seal the whole nozzle forming surface 15a of the recording head 15 by the contracting action of a compression spring according to a rise in the slider 31 which is provided between the slider and the cap holder 21 and is not shown" (paragraph[0067]-emphasis added) but fails to disclose "a moving hinge part having a second hinge hole disposed lower than a first hinge hole on the other end portion thereof to be engaged with the second hinge shaft of the revolving member" as recited in claim 18.

As such, it is respectfully submitted that the combination of Taylor et al., Okamoto and/or Shimizu et al. does not teach or suggest the invention recited in claim 18.

Claims 19, and 20 is deemed patentable due at least their depending from claim 18, as well as for the additional features recited therein.

Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (U.S. Publication No. 2002/0015070) as modified by Okamoto (U.S. Patent No. 6,474,774) and further in view of Takahashi et al. (U.S. Patent No. 6,203,136).

The Office Action acknowledges Taylor et al. as modified by Okamoto does not disclose "the body revolves the revolving member upward and downward on the shaft while revolving on the first hinge shaft of the slider, and the second hinge hole of the moving hinge part is a long opening lengthened in a direction of the body." However, the Office Action sets forth Takahashi et al. discloses "the body revolves the revolving member upward and downward on the shaft while revolving on the first hinge shaft of the slider, and the second hinge hole of the moving hinge part is a long opening lengthened in a direction of the body."(Figures 8b, 9b; column 4, lines 20-36)

By way of review, Takahashi et al. discloses "The slider 20 has a convex portion 25 at the lower end on the outermost end so as to be in contact with a guide surface 26 of the base 21 to slide on the guide surface. The slider 20 also has projection pipes 28 and 29 formed in the side portion of the printing region perpendicularly to the moving direction of the carriage 1. One end of an arm 31 is pivotably supported by the projection pipes 28 and 29, wherein the other end of the arm 31 is supported swingably and slidably by the base 21 through a long opening 30. The printing region sides of the projection pipes 28 and 29 are normally urged upward by a compression spring 32 inserted between the base 21 and the arm 31 so as to take an almost horizontal posture. A communicating hole 28a communicating with an ink suction hole 38 of a cap 34, which will be described later, is formed in the projection pipe 28 to engage with the arm 31 so as to serve also as a connection passage."(col. 4, lines 20-36-emphasis added)

As noted above, Takahashi et al. fails to disclose "the second hinge hole of the moving hinge part is a long opening lengthened in a direction of the body" but merely discloses "A communicating hole 28a communicating with an ink suction hole 38 of a cap 34."

As such, it is respectfully submitted that the combination of Taylor et al., Okamoto and/or Takahashi et al. does not teach or suggest the invention recited in claim 6.

In addition, claim 8 is deemed to patentable due at least its depending from claim 6, as well as for the additional recitations therein.

OJECTIONS TO THE CLAIMS:

As mentioned above, at page 11 of the Office Action, claims 16 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, reconsideration of claims 16 and 21 are respectfully requested based upon the reasons mentioned above.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

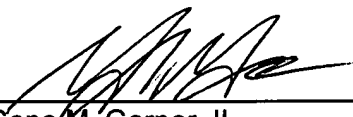
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If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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